



PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Masahiro YATAKE

Group Art Unit: 1714

Application No. 09/909,417

Examiner: Callie E. Shosho

Filed: July 19, 2001

For: SACCHARIDE-ALKYLENEOXY DERIVATIVE AND INK

DECLARATION UNDER 37 CFR §1.132

Honorable Commissioner of Patents and Trademarks
Alexandria, VA 22313-1450

Sir:

I, Masahiro Yatake, do declare and state that:

I graduated from Science and Technology of Nagasaki University, Department of Materials Science and Engineering, Superstructural Materials Engineering Laboratory in March of 1983.

I graduated from Graduate School of Science and Technology of Nagasaki University, Course of Materials Science and Engineering, Superstructural Materials Engineering Laboratory, receiving a Master's Degree in Polymer Material Engineering in March of 1985.

I was employed by Seiko Epson Corporation in April of 1985, and since that time to March of 1993, I had

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been principally engaged in development relating to magnet optical media in said company.

After that, I have been principally engaged in development relating to ink jet inks in said company.

I am the sole inventor of the invention described and claimed in the above-identified application and am familiar with the Office Action dated January 24, 2003 issued therein.

The following comparative experimentation was conducted by me or under my supervision to demonstrate the unexpected superiority of the presently claimed invention.

EXPERIMENTATION

Inks of Test Examples 1 to 6 were prepared in accordance with the formulation set forth in Example 7 of the specification, except that the "Substance obtained in Example 1" (i.e., compound of formula (1)) was used in the amount shown in the Table A below or omitted, and that the "Maltitol" was omitted or replaced with the below-shown amount of maltitol, xylitol, glycerol or a combination thereof.

Each of the thus prepared inks was allowed to stand in a printer (EM930C, manufactured by Seiko Epson Corporation) at 60°C and 40%RH for 1 week or at 40°C and

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20%RH for 3 months, and then the nozzle clogging-recovering property was examined and evaluated in accordance with the following criteria.

- A: 3 or less cycles of cleaning restored all nozzles.
- B: 5 or less cycles of cleaning restored all nozzles.
- C: 10 or less cycles of cleaning restored all nozzles.
- D: Even 10 cycles of cleaning did not restore all nozzles.

The obtained results are shown in Table A below.

Table A

| Test Example Nos. | 1 | 2 | 3 | 4 | 5 | 6 |
|--|----|----|----|----|---|----|
| Compound of Formula (1) | 15 | | | 10 | 5 | 10 |
| Maltitol | | 15 | | 5 | 5 | |
| Xylitol | | | 15 | | 5 | |
| Glycerol | | | | | | 5 |
| Recovering Property (60°C, 40%, 1 Week) | C | D | D | A | A | A |
| Recovering Property (40°C, 20%, 3 Months) | C | D | D | B | B | A |

As is apparent from the results shown in the above Table, the compound of formula (1) gave excellent results in nozzle clogging-recovering property when used in combination with a C₃ to C₁₂ saccharide, particularly glycerol.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and

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further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: October 9, 2003

Masahiro Yatake

Masahiro Yatake